



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/954,515	09/17/2001	Hyung-Chul Choi	M0023/7000D	9063

22832 7590 09/22/2003

KIRKPATRICK & LOCKHART LLP  
75 STATE STREET  
BOSTON, MA 02109-1808

EXAMINER

HON, SOW FUN

ART UNIT

PAPER NUMBER

1772

DATE MAILED: 09/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/954,515

Applicant(s)

CHOI ET AL.

Examiner

Sow-Fun Hon

Art Unit

1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 July 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 18-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 1772

**DETAILED ACTION**

***Response to Amendment***

***Withdrawn Rejections***

1. The 35 U.S.C. 112, 2<sup>nd</sup> paragraph rejections (Paper # 6, paragraphs 4-5, mailed 03/28/03) of claims 19, 25 have been withdrawn due to Applicant's clarification and amendment in Paper # 7 (filed 07/02/03).
2. The 35 U.S.C. 112, 2<sup>nd</sup> paragraph rejection of claims 18-28 (Paper # 6, paragraph 3a,b,c, mailed 03/28/03) has been withdrawn in part. Components a, b, c of the rejection have been withdrawn due to Applicant's clarification and amendment in Paper # 7 (filed 07/02/03). Component d of the rejection has been repeated for the same reasons previously of record in Paper # 6, paragraph 3d, mailed 03/28/03).

***Rejections Repeated***

3. The 35 U.S.C. 112, 2<sup>nd</sup> paragraph rejection of claims 18-28 (Paper # 6, paragraph 3d, mailed 03/28/03) has been repeated in part.
4. The 35 U.S.C. 103(a) rejection of claims 18-26, 28 over Yatabe et al. has been repeated for the same reasons previously of record in Paper # 6 (mailed 03/28/03).
5. The 35 U.S.C. 103(a) rejection of claim 27 over Austin in view of Yatabe et al. has been repeated for the same reasons previously of record in Paper # 6 (mailed 03/28/03).

***Response to Arguments***

6. Applicant's arguments filed 07/02/03 have been fully considered but they are not persuasive.

Art Unit: 1772

7. Applicant argues that the specification clearly discloses that in some instances the layer needs to have sufficient conductivity to provide a required low sheet resistance of at least about 400 ohms/square, and yet also states that the term “ohms/square” denotes sheet resistance which has an inverse relationship to conductivity as is well known to one skilled in the art. Thus the limitation of “at least about 400 ohms/square” inferring high sheet resistance and correspondingly low conductivity appears to be contradictory.

Applicant is respectfully apprised that it is the examiner's guess that the embodiment with the top layer having a sheet resistance in the range of about 100 to about 200 ohms/square in the specification (specification, column 8, lines 5-10) is a different invention from the one presently claimed with the top layer having a sheet resistance of at least about 400 ohms/square since the two ranges do not overlap. The insulating layer and the top layer in the first three entries in Table 1 (specification, column 8, lines 10-15) are both ITO. Thus the top layer can be insulating with a sheet resistance, aka “conductivity” in Applicant's lexicography, of at least about 400 ohms/square.

8. US 5,112,774 is provided as evidence that titanium oxide can indeed have a sheet resistance of at least about 400 ohms/square ('744, column 5, lines 20-25).

Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number is (703)308-3265. The examiner can normally be reached Monday to Friday from 9:00 AM to 6:00 PM.

Art Unit: 1772

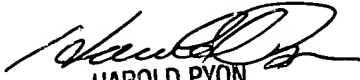
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on (703)308-4251. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9311.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

SH

Sow-Fun Hon

09/10/03

  
HAROLD PYON  
SUPERVISORY PATENT EXAMINER  
1772

9/10/03